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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,865	01/18/2001	Shizuo Hattori	208753	1162

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EXAMINER

LOEB, BRONWEN

ART UNIT PAPER NUMBER

1636

9

DATE MAILED: 03/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/765,865

Applicant(s)

HATTORI ET AL.

Examiner

Bronwen M. Loeb

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1636

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This action is in response to the amendment filed 5 April 2001.

Claims 1-6 are pending.

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: Claim 1 recites an abbreviation ("PQQ") without its definition. Abbreviations should be defined at their first use in the claim set. Claim 1 is also objected to for reciting "defected of conjugative transfer function beforehand" which appears to be a direct translation. Amending the claim to recite "defective for conjugative transfer" would overcome this objection.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. §112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite in reciting "capable of being expressed". This phrase refers to a latent ability; it is unknown whether the ability is expressed or observed in the invention.

Claim 4 is vague and indefinite in reciting "capable of producing". This phrase refers to a latent ability; it is unknown whether the ability is expressed or observed in the invention.

Claim 5 is vague and indefinite in reciting "capable of producing". This phrase refers to a latent ability; it is unknown whether the ability is expressed or observed in the invention.

#### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. §102(b) as being anticipated by Tamaki et al (Biochimica et Biophysica Acta (1991) 1088:292-300).

Tamaki et al teach a plasmid vector comprising an PQQ-containing alcohol dehydrogenase cloned into the shuttle vector pNK7. Absent evidence to the contrary, it is assumed that this vector is broad-host-range vector of the P-4 incompatibility group and is defective for conjugative transfer. The vector is transformed into Acetobacter polyoxogenes to express the encoded alcohol dehydrogenase containing PQQ. The resultant protein was semi-purified as a cellular extract. See entire document.

7. Claims 1-4 and 6 are rejected under 35 U.S.C. §102(e) as being anticipated by Sode (USP 6,103,509).

Sode teaches a vector comprising a gene encoding glucose dehydrogenase which takes PQQ as a coenzyme. The vector is pTrc99A. Absent evidence to the contrary, it is assumed that this vector is broad-host-range vector of the P-4 incompatibility group and is defective for conjugative transfer. A transformant comprising the vector is taught as is a method of producing PQQ-containing glucose dehydrogenase using the transformant. See entire document, especially Example 2.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshima et al (JP 11-243949) in view of Cameron et al (USP 5,670,343). Based on the abstract in English (provided by Applicant in their IDS) and Applicant's statements in the specification (p. 3, lines 7-17), Takeshima et al teach a broad-host-range vector (pGLD3) comprising a gene for glucose dehydrogenase wherein the gene can be and is expressed in *Pseudomonas*. pGLD3 belongs to the incompatibility group P-4, as it is based on R1b679. Takeshima et al do not teach a vector wherein the conjugative transfer function (encoded by *mob*) is defective. At the time the invention was filed, it would have been obvious to one of ordinary skill in the art to make pGLD3 a non-mobilizable vector by mutating or deleting the conjugative transfer function. One of ordinary skill in the art would have been motivated to do so because biosafety constraints dictate non-conjugative and nonmobilizable plasmids for use in *E. coli* and *Pseudomonas* to prevent transmission to other organisms in the event of accidental release of the transformed organism into the natural environment, and means to

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achieve nonmobilizable plasmids are taught in Cameron et al. See entire document, especially col. 1, lines 52-60, col. 3, lines 54-64, col. 4, line 27- col. 5, line 4, col. 5, line 49- col. 6, line 7 and the Table in col. 12.

### ***Conclusion***

Claims 1-6 are rejected.

Certain papers related to this application may be submitted to Art Unit 1636 by facsimile transmission. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). The official fax telephone numbers for the Group are (703) 308-4242 and (703) 305-3014. NOTE: If Applicant does submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bronwen M. Loeb whose telephone number is (703) 605-1197. The examiner can normally be reached on Monday through Friday, from 10:00 AM to 6:30 PM. A phone message left at this number will be responded to as soon as possible (usually no later than the next business day after receipt by the examiner).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Remy Yucel, can be reached on (703) 305-1998.

Any inquiry of a general nature or relating to the status of this application should be directed to Tracey Johnson, Patent Analyst whose telephone number is (703) 305-2982.

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Patent Examiner  
Art Unit 1636

March 24, 2002

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March 23, 2002

  
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